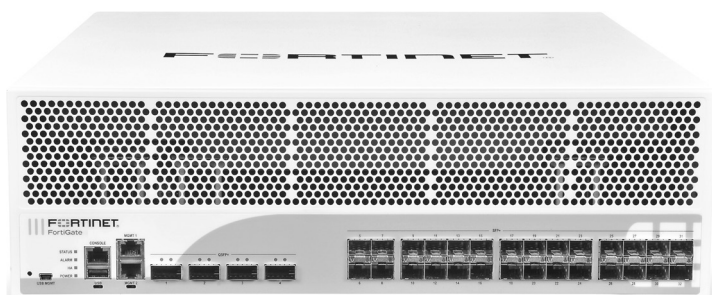


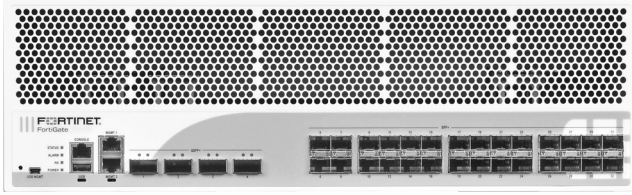
FORTINET®



FortiGate 3700D

Information

Box Includes



FortiGate 3700D



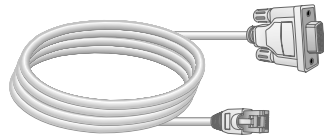
Information Supplement



The FortiGate Cookbook



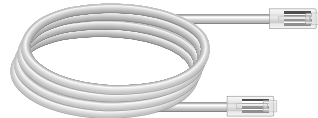
2 AC Power Cables
(AC models only)



Console Cable



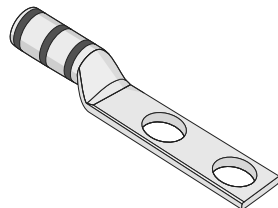
USB Cable



Ethernet Cable

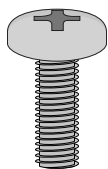


6 DC Terminal Rings
(DC models only)



2 Grounding Lugs
(DC and NEBS models only)

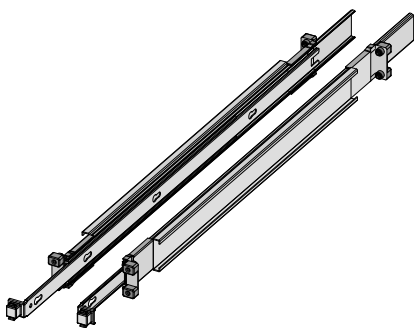
Box Includes



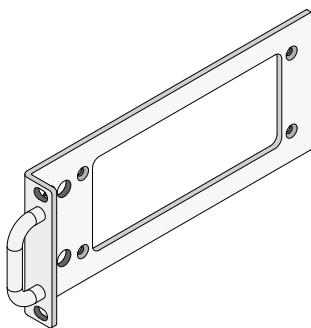
2 Pan Head Screws



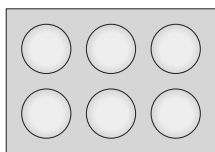
12 Flat Head Undercut Screws



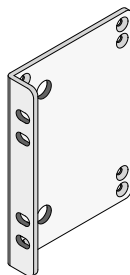
Rail Mount Kit



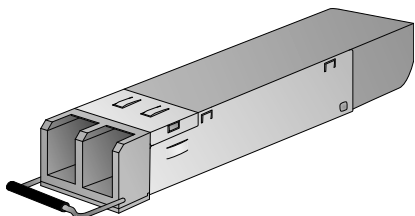
2 Rack Mount Brackets



6 Rubber Feet



2 Middle Rack Mount Brackets



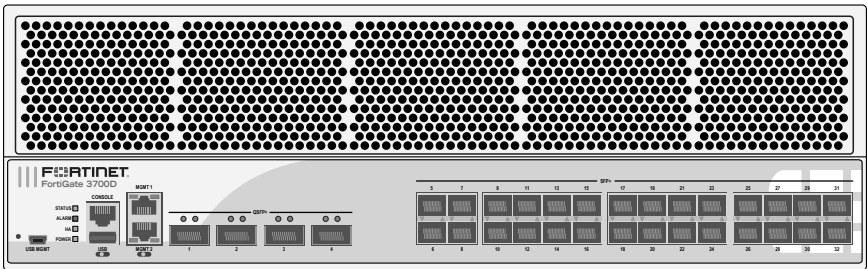
2 SFP+ SR Transceivers

QSFP Ports 1 - 4 (QSFP+)

40Gbps quad form-factor
pluggable transceiver ports

SFP Ports 5 - 32 (SFP+)

10Gbps small form-factor
pluggable transceiver ports



MGMT 1 & 2 (RJ-45)

Client ports for management.
Default IP address of MGMT 1 is 192.168.1.99

Console (RJ-45)

Optional connection to the management computer
Provides access to the CLI

USB (USB A)

USB server port

USB MGMT (USB mini-B)

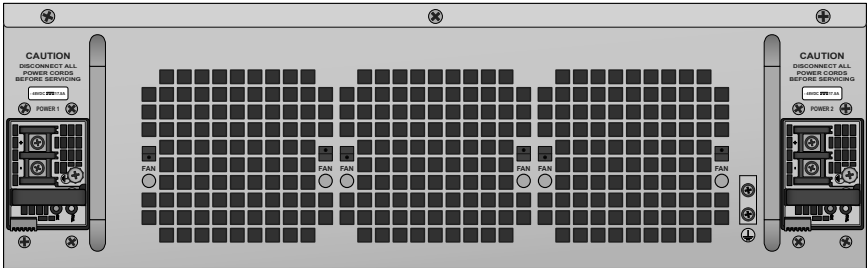
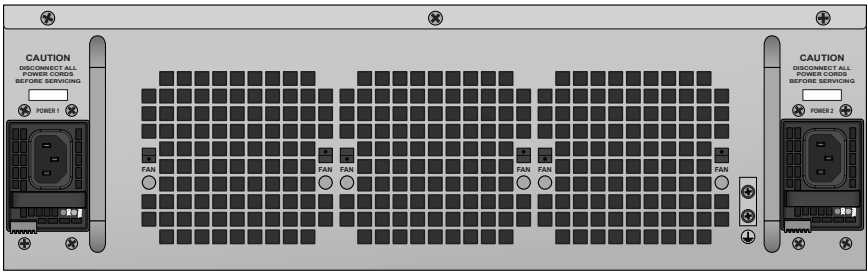
USB client port

Device Guide

Power

100-240V AC, 12-5A, 50-60Hz

hot swappable, redundant (1+1) power supplies



DC Power

-48V DC, 17.5A

hot swappable, redundant (1+1) power supplies

+ : 0V

- : -48V

Logo

- Green: The unit is on
- Off: The unit is off

SFP Ports

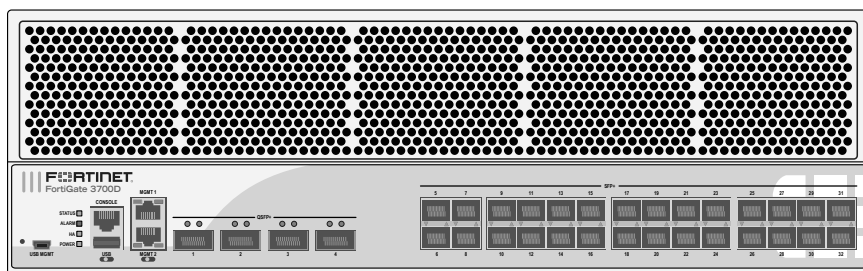
- Green: Connected
- Flashing Green: Transmitting & receiving data
- Off: No link established

QSFP Ports at 40Gbps

- ● Green and Off: Connected
- ● Off and Off: Not connected

QSFP Ports at 4 x 10Gbps

- Flashing Green and Blue: All ports connected
- Flashing Green and Flashing Blue: Some ports connected
- ● Off and Off: No ports connected



MGMT Ports Link/Activity

- Green: Connected
- Flashing Green: Transmitting & receiving data
- Off: No link established

MGMT Ports Speed

- Green: Connected at 1Gbps
- Amber: Connected at 100Mbps
- Off: Connected at 10Mbps or not in use

Status

- Green: Normal
- Flashing Green: Booting up
- Red: The unit has a major alarm

Alarm

- Red: The unit has a major alarm
- Amber: The unit has a minor alarm
- Off: The unit is operating normally

HA

- Green: Operating in an HA cluster
- Red: HA failure
- Off: Not in an HA cluster

Power

- Green: The unit is on
- Off: The unit is off

OK

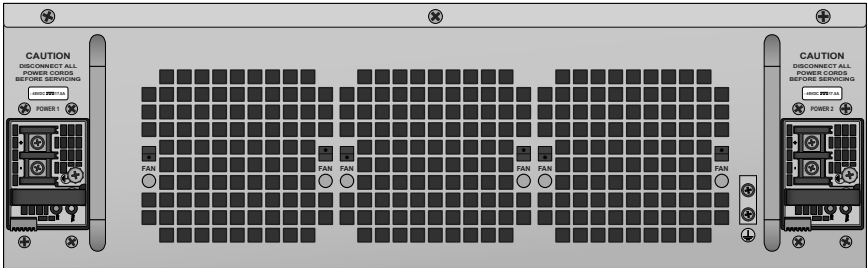
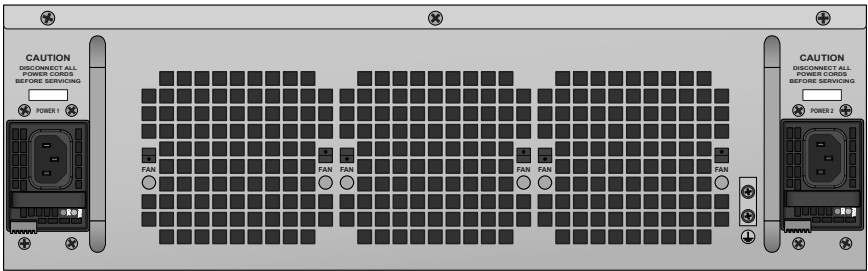
- Green: Power supply providing power
- ☀ Flashing Green: Power supply not providing power
- Off: Error or no power

FAIL

- Amber: Main output or fan error
- ☀ Flashing Amber: Power supply warning event
- Off: No errors or no power

Fan

- Green: Fan speed within normal range
- Off: Fan speed not within normal range



OK

- Green: Standby rail and main output on
- ☀ Flashing Green: Standby rail on and main output off
- Off: Error or no power

FAIL

- Amber: Main output or fan error
- ☀ Flashing Amber: Power supply warning event
- Off: No errors or no power

Installation

The FortiGate unit can be mounted in any standard 19 inch rack unit with the provided mounting hardware. AC models can also be surface mounted.

Please read the “Cautions and Warnings” on page 13 before installing your device.

For more detailed installation instructions, see the Hardware Acceleration Guide available in the Fortinet Document Library (<http://docs.fortinet.com>).

Caution: Electrostatic discharge (ESD) can damage your Fortinet equipment.

To avoid personal injury or damage to the unit, it is recommended that two or more people install the unit into the rack.

Please consult a licensed electrician before connecting this product to a DC power source, or hire a licensed electrician to perform all connections (DC models only).

Do not place heavy objects on the unit.

Note: Each power cable should be connected to a different power source. In this way, if one power source fails, the other may still be operational and the unit will not lose power.

This product has a separate protective earthing terminal provided on the back of the product in addition to the grounding terminal of the attachment plug. This separate protective earthing terminal must be permanently connected to earth with a green with yellow stripe conductor minimum size **6 AWG** and the connection is to be installed by a qualified service personnel.

DC models only:

Note: This product is only intended for installation and use in a Restricted Access Location.

DC terminals accept UL approved ring terminals for 8/M4 stud with ext ring diameter < 9.8 mm.

DC cables must be a minimum of **10 AWG**.

Four Post Rack-Mount Installation

1. Using the supplied hardware, attach the inner slide rails to each side of the unit using the two pan head screws, and attach the outer slide rails to the rack.
2. Attach the front handles to each side of the unit using eight flat head screws.
3. Ensure there is enough room around the unit to allow for sufficient air flow.
4. Slide the unit into your equipment rack.
5. For AC models, plug the supplied cables into the rear of the unit and into a surge protected power bar or power supply.
For DC models, connect cables to the rear of the unit and then into your DC power source.

Two Post Rack-Mount Installation

1. Attach the middle mounting brackets to each side of the unit using eight flat head screws.
2. Ensure there is enough room around the unit to allow for sufficient air flow.
3. Secure the unit into your equipment rack
4. For AC models, plug the supplied cables into the rear of the unit and into a surge protected power bar or power supply.
For DC models, connect cables to the rear of the unit and then into your DC power source.

Surface-Mount Installation (AC models only)

1. Ensure that the surface onto which the FortiGate unit to be installed is clean, level, and stable and that there is at least 1.5in (3.8cm) of clearance on all sides to allow for adequate airflow.
2. Attach the six provided rubber feet to the bottom of the FortiGate unit.
3. Place the unit in the designated location.
4. Verify that the spacing around the FortiGate unit conforms to requirements and that the unit is level.
5. Plug the supplied cables into the rear of the unit and into a surge protected power bar or power supply.

Specifications

Parameter	Min	Avg	Max	Unit
Max Inrush Current			40	A
Max Inrush Current Duration			50	ms
Current @ 48V		12.7	17.5	A
Input Voltage	-40		-72	V DC
Power Consumption		609.6	840	W
Heat Dissipation			2871	BTU/hr
Number of Power Supplies	1		2	
Airflow	Front to Back			

Crimping guidelines

The end of the #6 AWG ground wire must be fitted with a suitable 5/8-inch double-hole lug. Use the following information to crimp and prepare the wire.

Caution: Do not crimp energized wires.

Follow these crimping guidelines:

- Strip the insulation from cable. Be careful not to nick cable strands which may later result in stands breaking.
- Cable end should be clean: wire brush or clean with emery cloth if necessary. Insert cable into connector until it stops. The insertion length must approximate the stripped length of cable.
- Insert connector in die and compress between the markings beginning near the tongue of the connector. Using the wrong installing die may result in a defective connection.
- After crimping, remove all sharp edges, flashes, or burrs.

Connecting the device to ground

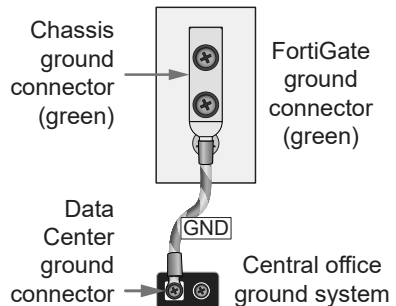
This product has a separate ground terminal provided on the back of the product in addition to the grounding terminal of the attachment plug. The ground terminal provides two connectors to be used with a double-holed lug. This connector must be connected to a local ground connection.

You need the following equipment to connect the device to ground:

- An electrostatic discharge (ESD) preventive wrist strap with connection cord.
- One green with yellow stripe 6 AWG stranded wire with listed closed loop double-hole lug suitable for minimum 6 AWG copper wire.

To connect the device to ground:

1. Attach the ESD wrist strap to your wrist and to an ESD socket or to a bare metal surface on the device or frame.
2. Make sure that the device and ground wire are not energized.
3. Connect the ground wire from the local ground to the ground connector on the device.
4. Secure the ground wire to the device.
5. Optionally label the wire GND.



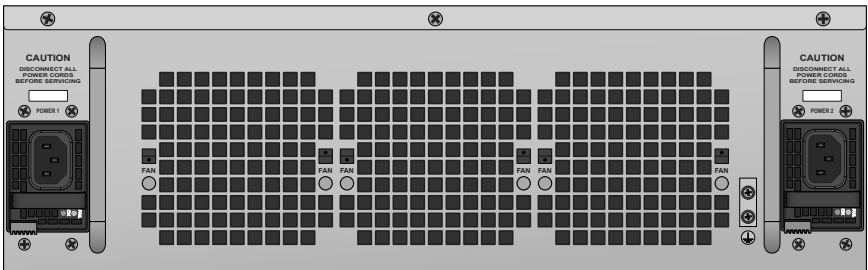
NEBS Supplemental Unit Bonding and Grounding Guidelines

To meet Network Equipment Building System (NEBS) and safety compliance requirements, the grounding point on the back of the device must be permanently connected to the central office or interior equipment grounding system.

Use the following parts to ensure a satisfactory ground connection to the FortiGate 3700D device:

- One UL Listed grounding lug with two M5 bolt holes with 15.88mm (0.625in) spacing between them
- A wire receptacle that accepts 6 AWG or larger, multistrand copper wire
- One grounding wire that is at least 6 AWG multistrand copper wire. The wire diameter and length depend on the device location and site environment
- Two screws with lock washers (provided).

NEBS SKU only, please check price list for NEBS SKU offering.



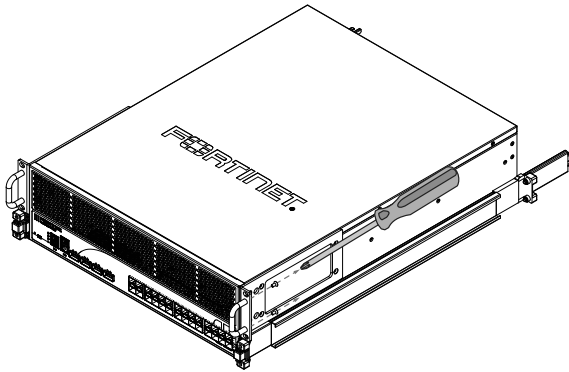
Grounding Point

NEBS Optional Air Filter Installation

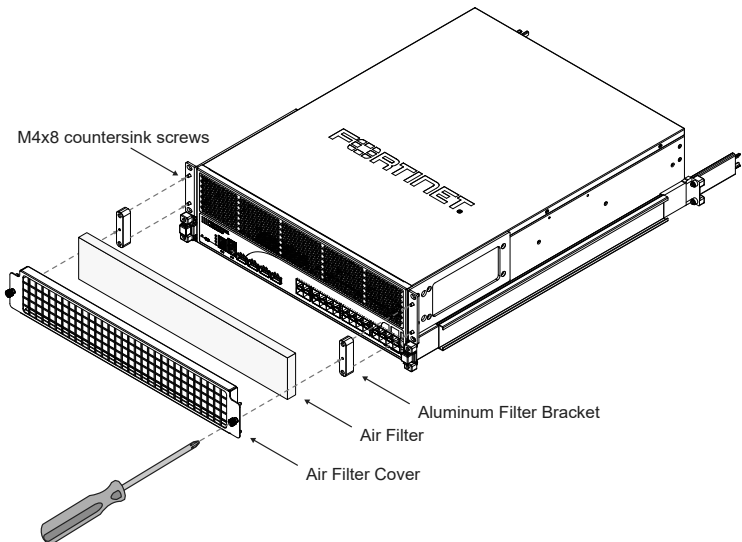
An air filter can be purchased to cover the front air intakes of the device.

To connect the air filter:

1. Remove the ears from the rack-mount brackets using an appropriate screwdriver.



2. Attach the Aluminum Filter Brackets to the rack-mount brackets using four M4x8 flat head countersink screws.
3. Insert the Air Filter into the Air Filter Cover, then screw the cover onto the filter brackets using an appropriate screwdriver.



NEBS SKU only, please check price list for NEBS SKU offering.

Cautions and Warnings

Environmental specifications

Ambient operating temperature: 0C to 40C

Rack Mount Instructions - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T_{max}) specified by the manufacturer.

Instructions de montage en rack - Les instructions de montage en rack suivantes ou similaires sont incluses avec les instructions d'installation:

Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T_{max}) specified by the manufacturer.

Température ambiante élevée – S'il est installé dans un rack fermé ou à unités multiples, la température ambiante de fonctionnement de l'environnement du rack peut être supérieure à la température ambiante de la pièce. Par conséquent, il est important d'installer le matériel dans un environnement respectant la température ambiante maximale (T_{max}) stipulée par le fabricant.

Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

Ventilation réduite – Installation de l'équipement dans un rack doit être telle que la quantité de flux d'air nécessaire au bon fonctionnement de l'équipement n'est pas compromise.

Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

Chargement Mécanique – Montage de l'équipement dans le rack doit être telle qu'une situation dangereuse n'est pas lié à un chargement mécanique inégal.

Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Surtenstion – Il convient de prendre l'ensemble des précautions nécessaires lors du branchement de l'équipement au circuit d'alimentation et être particulièrement attentif aux effets de la suralimentation sur le dispositif assurant une protection contre les courts-circuits et le câblage. Ainsi, il est recommandé de tenir compte du numéro d'identification de l'équipement.

Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).

Fiabilité de la mise à la terre- Fiabilité de la mise à la terre de l'équipement monté en rack doit être maintenue. Une attention particulière devrait être accordée aux connexions d'alimentation autres que les connexions directes au circuit de dérivation (par exemple de l'utilisation de bandes de puissance).

Refer to specific Product Model Data Sheet for Environmental Specifications (Operating Temperature, Storage Temperature, Humidity, and Altitude).

Référez à la Fiche Technique de ce produit pour les caractéristiques environnementales (Température de fonctionnement, température de stockage, humidité et l'altitude).

Safety

Warning: Equipment intended for installation in Restricted Access Location.
Avertissement: Le matériel est conçu pour être installé dans un endroit où l'accès est restreint.

Warning: A readily accessible disconnect device shall be incorporated in the building installation wiring.
Avertissement: Un dispositif de déconnexion facilement accessible doit être incorporé dans l'installation électrique du bâtiment.

Battery – Risk of explosion if the battery is replaced by an incorrect type. Do not dispose of batteries in a fire. They may explode. Dispose of used batteries according to your local regulations. **IMPORTANT:** Switzerland: Annex 4.10 of SR814.013 applies to batteries.

Batterie – Risque d'explosion si la batterie est remplacée par un type incorrect. Ne jetez pas les batteries au feu. Ils peuvent exploser. Jetez les piles usagées conformément aux réglementations locales. **IMPORTANT:** Suisse: l'annexe 4.10 de SR814.013 s'appliquent aux batteries.

警告
本電池如果更換不正確會有爆炸的危險
請依製造商說明書處理用過之電池

Caution: Disconnect power supply cords before servicing
Attention: Débranchez les cordons de la source d'alimentation avant tout entretien.

Grounding — To prevent damage to your equipment, connections that enter from outside the building should pass through a lightning / surge protector, and be properly grounded. Use an electrostatic discharge workstation (ESD) and/or wear an anti-static wrist strap while you work. In addition to the grounding terminal of the plug, on the back panel, there is another, separate terminal for earthing.

Mise à la terre — Pour éviter d'endommager votre matériel, assurez-vous que les branchements qui entrent à partir de l'extérieur du bâtiment passent par un parafoudre / parasurtenseur et sont correctement mis à la terre. Utilisez un poste de travail de décharge électrostatique (ESD) et / ou portez un bracelet anti-statique lorsque vous travaillez. Ce produit possède une borne de mise à la terre qui est prévu à l'arrière du produit, à ceci s'ajoute la mise à la terre de la prise.

This product has a separate protective earthing terminal provided on the back of the product in addition to the grounding terminal of the attachment plug. This separate protective earthing terminal must be permanently connected to earth with a green with yellow stripe conductor minimum size # 6 AWG and the connection is to be installed by a qualified service personnel.

Ce produit a une borne de mise à la terre séparé sur le dos de l'appareil, en plus de la borne de mise à la terre de la fiche de raccordement. Cette borne de mise à la terre séparée doit être connecté en permanence à la terre avec un conducteur vert avec la taille bande jaune de minimum # 6 AWG et la connexion doit être installé par un personnel qualifié.

NEBS:

NEBS SKU only, please check price list for NEBS SKU offering.

WARNING: The intra-building ports of the FG-3700D equipment or subassembly are suitable for connection to intra-building or unexposed wiring or cabling only. The intra-building port(s) of the equipment or subassembly MUST NOT be metalically connected to interfaces that connect to the OSP or its wiring. These interfaces are designed for use as intra-building interfaces only (Type 2 or Type 4 ports as described in GR-1089-CORE, Issue 6) and require isolation from the exposed OSP cabling. The addition of Primary Protectors is not sufficient protection in order to connect these interfaces metalically to OSP wiring.

WARNING: The FG-3700D shall be connected to and external Special Protection Devices (SPD) when installed and connected to commercial AC power.

The FG-3700D shall be located in a restricted access location were only crafts personnel are allowed access.

FG-3700D utilizes a UL Listed two-hole lug with a size of 10AWG that utilizes 2.3N-m to secure the frame and EUT.

The FG-3700D shall be installed and connected to the CBN.

The FG-3700D is suitable for connection to the Central Office and locations where NEC applies.

The battery returns of the FG-3700D shall be connected as DC-1.

The FG-3700D shall be grounded via a copper ground conductor.

All bare grounding connection points to the FG-3700D shall be cleaned and coated with an anti-oxidant solution before connections are made.

All surfaces on the FG-3700D that are un-plated shall be brought to a bright finish and treated with and anti-oxidant solution before connections is made.

All non-conductive surfaces on the FG-3700D shall be removed from all threads and connection points to ensure electrical continuity.

The FG-3700D is capable of operating at 100-240Vac or -48Vdc at a maximum current level 12-5A for AC or 17.5A for DC.

Regulatory Compliance

Federal Communication Commission (FCC) – USA

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received; including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if it is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

WARNING: Any changes or modifications to this product not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Industry Canada Equipment Standard for Digital Equipment (ICES) – Canada

CAN ICES-3 (A) / NMB-3 (A)

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Cet appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

European Conformity (CE) - EU

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.



Product Safety Electrical Appliance & Material (PSE) – Japan

日本では電気用品安全法(PSE)の規定により、同梱している電源コードは本製品の専用電源コードとして利用し、他の製品に使用しないでください。

Voluntary Control Council for Interference (VCCI) – Japan

この装置は、クラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。V C C I – A

Bureau of Standards Metrology and Inspection (BSMI) – Taiwan

這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

China

此為A級產品，在生活環境中，該產品可能會造成無線電干擾。這種情況下，可能需要用戶對其採取切實可行的措施。

Agência Nacional de Telecomunicações (ANATEL) – Brazil

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.



Para maiores consultas sobre ANATEL, consulte o site: www.anatel.gov.br

Korea Certification (KC) – Korea

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